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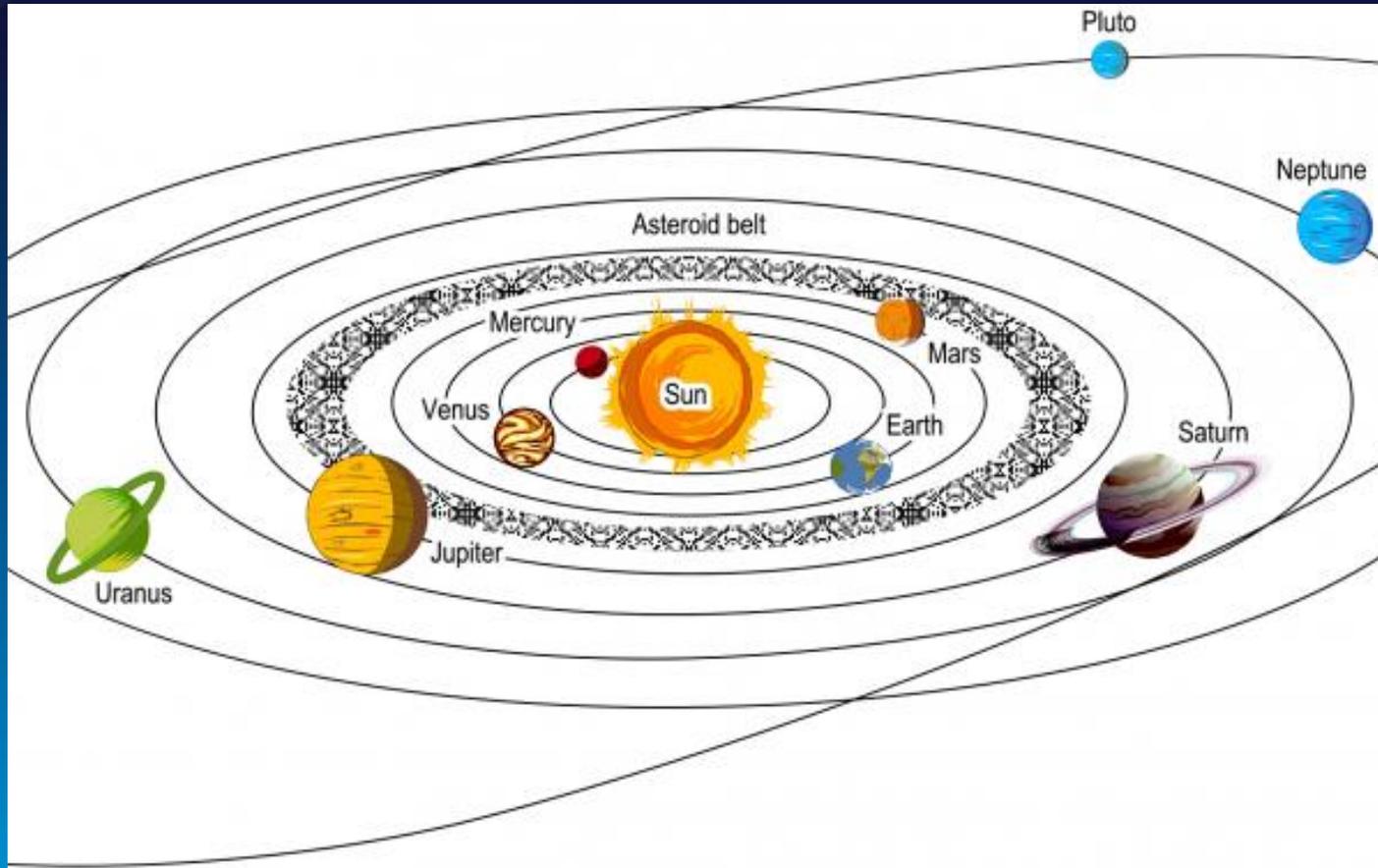
Introduction to the Weather in Northern New Mexico

July 2016

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- Meteorology – The Study of the Air
- What “makes” our weather?
- What are the clouds that we see, telling us about our weather?

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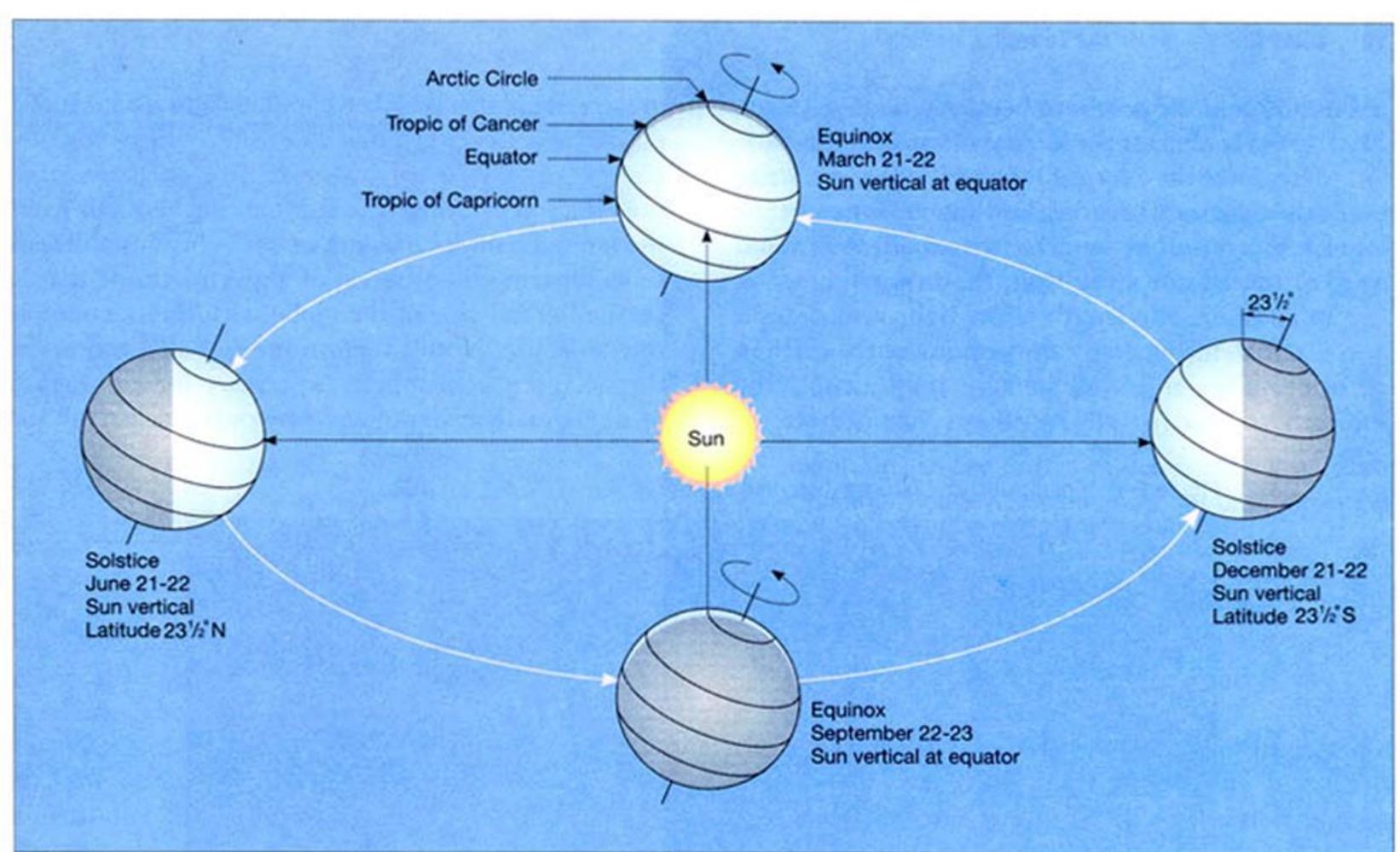
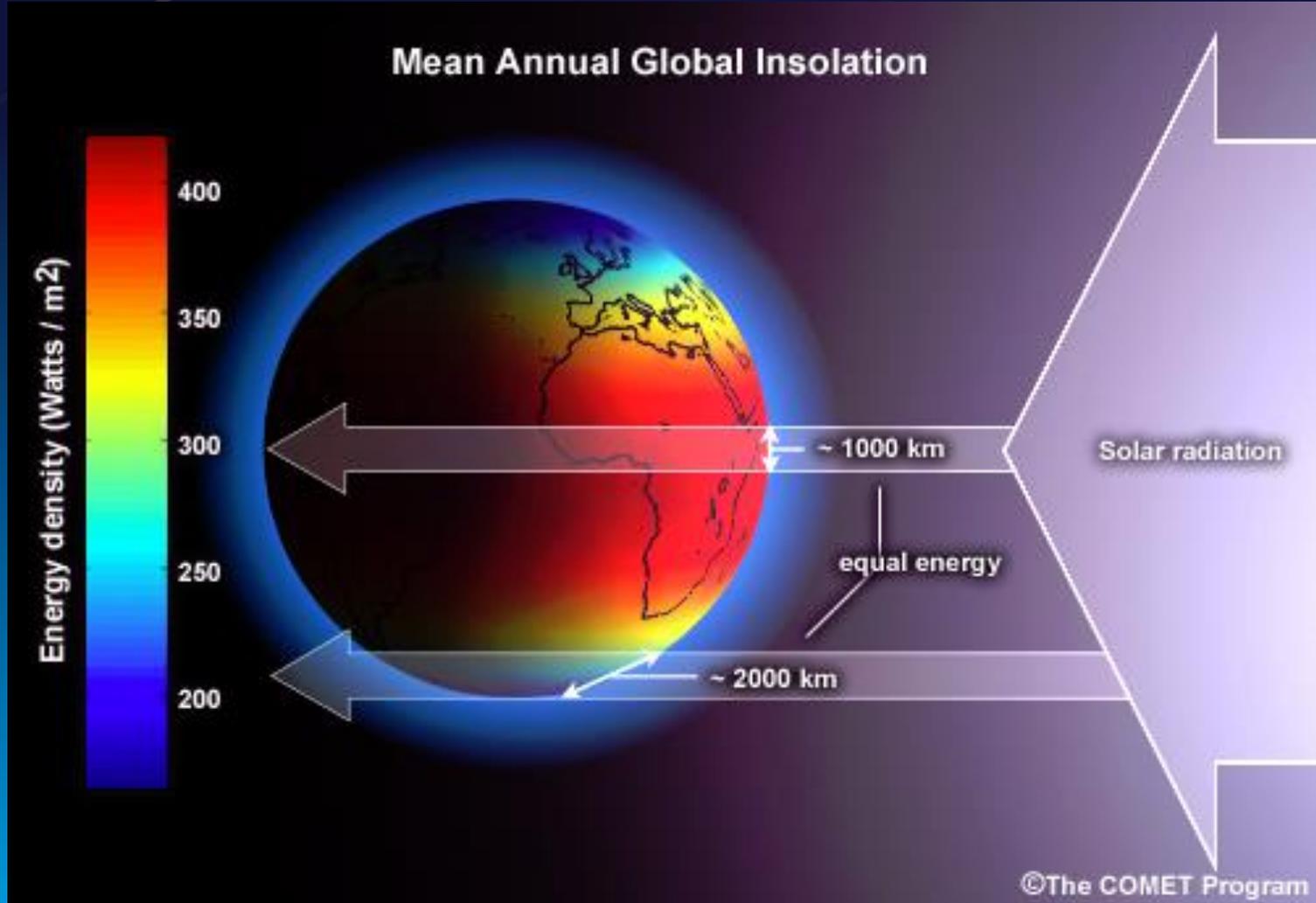
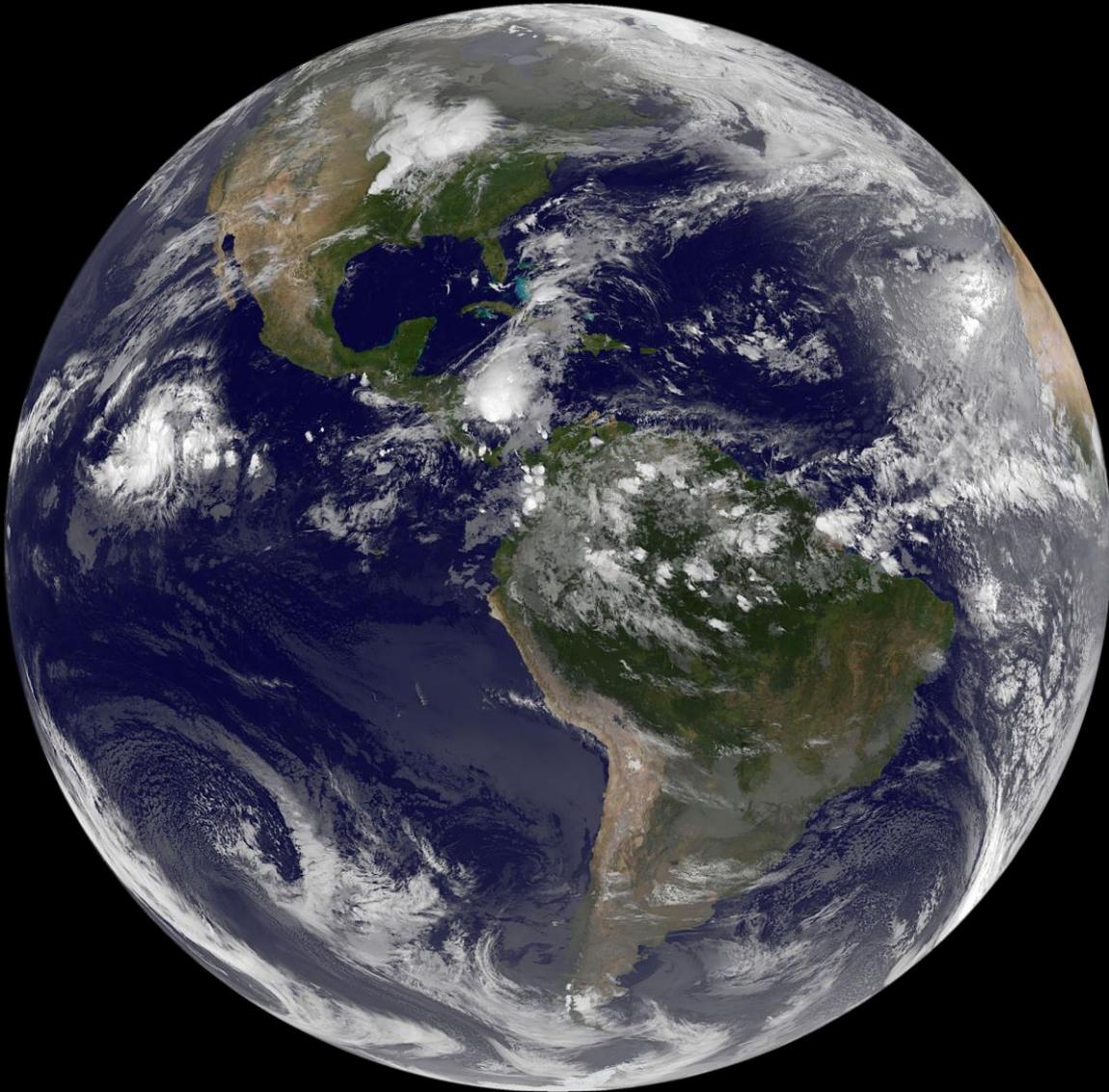


Figure 2•3 Earth-sun relationships.

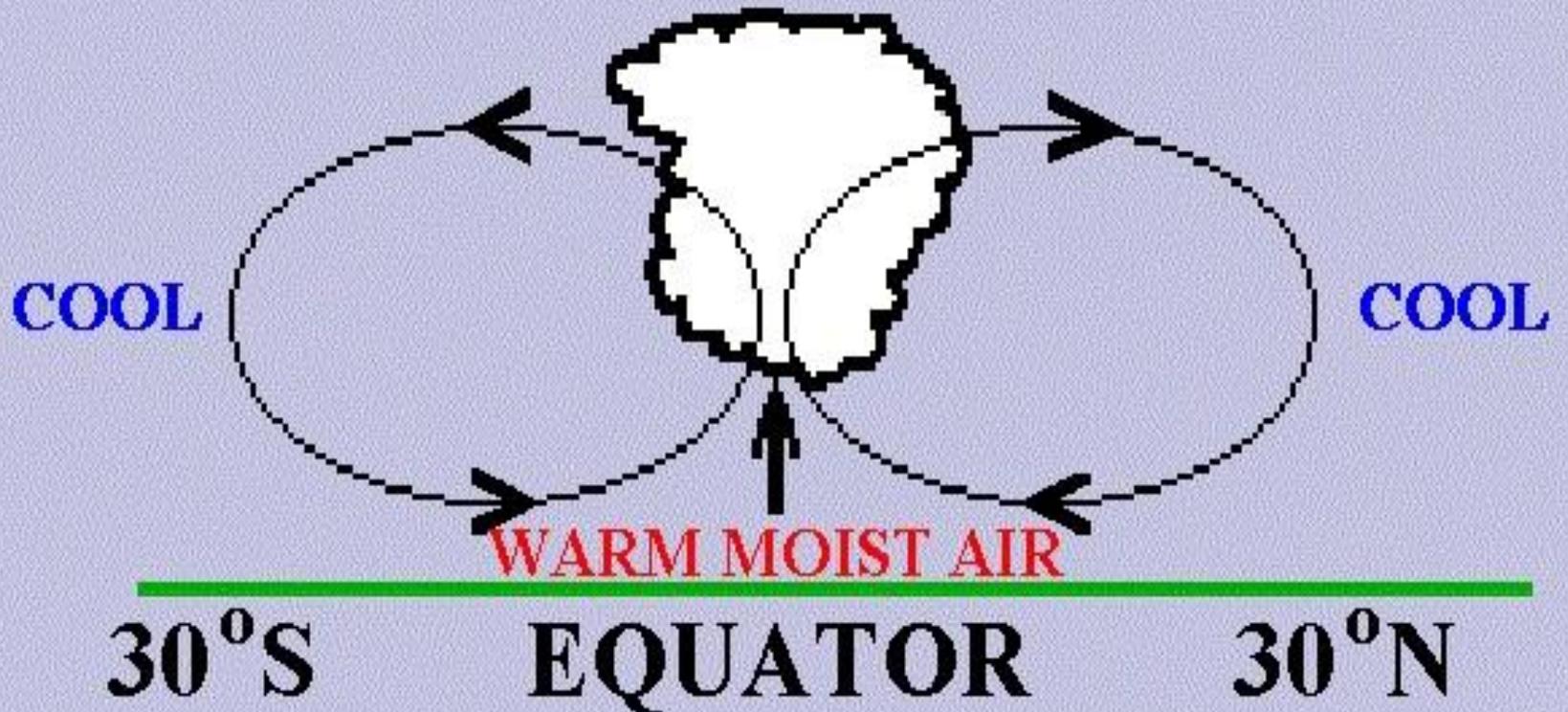
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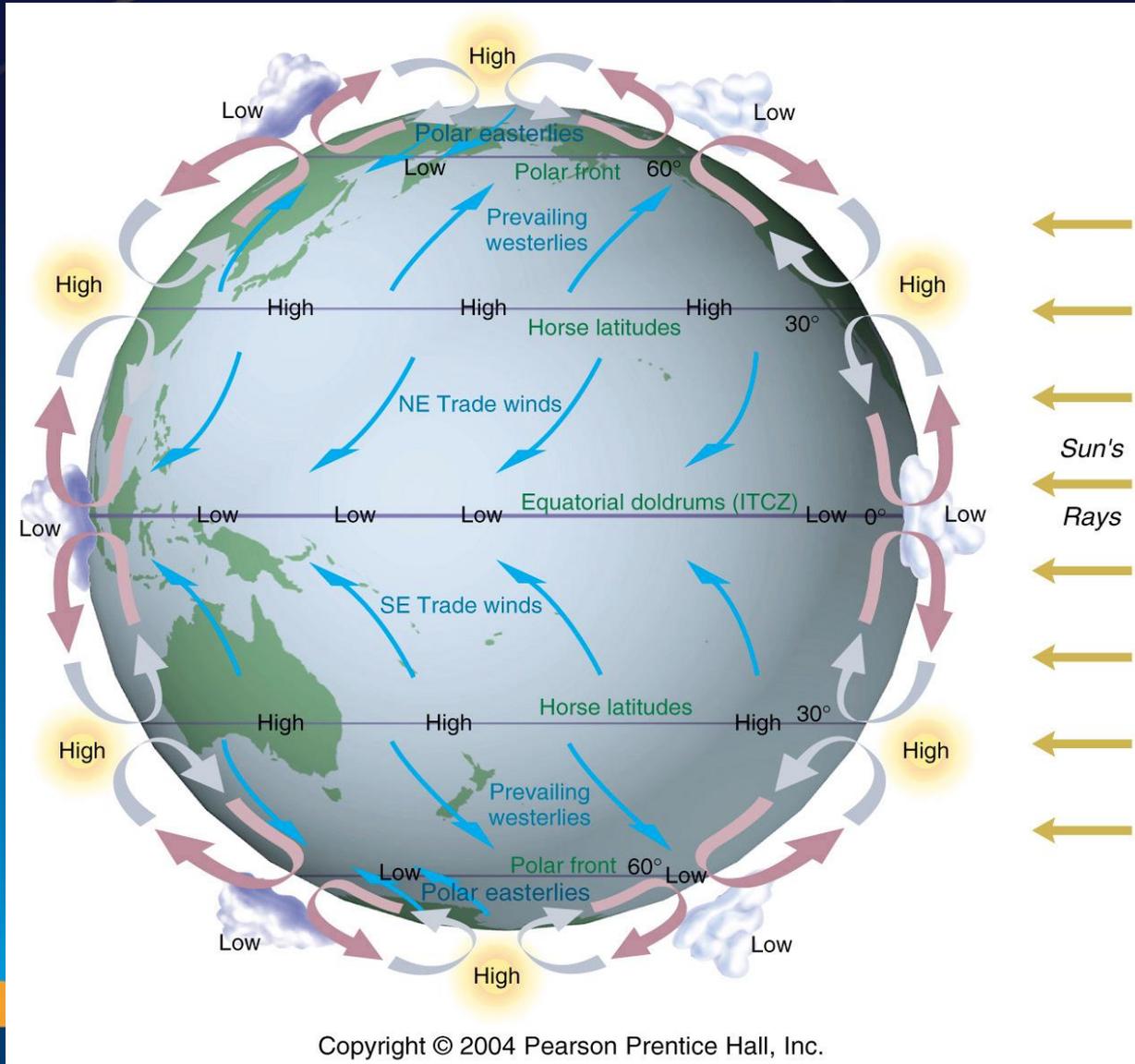
NOAA GOES 12 090608 0845 UTC NASA GSFC GOES Project



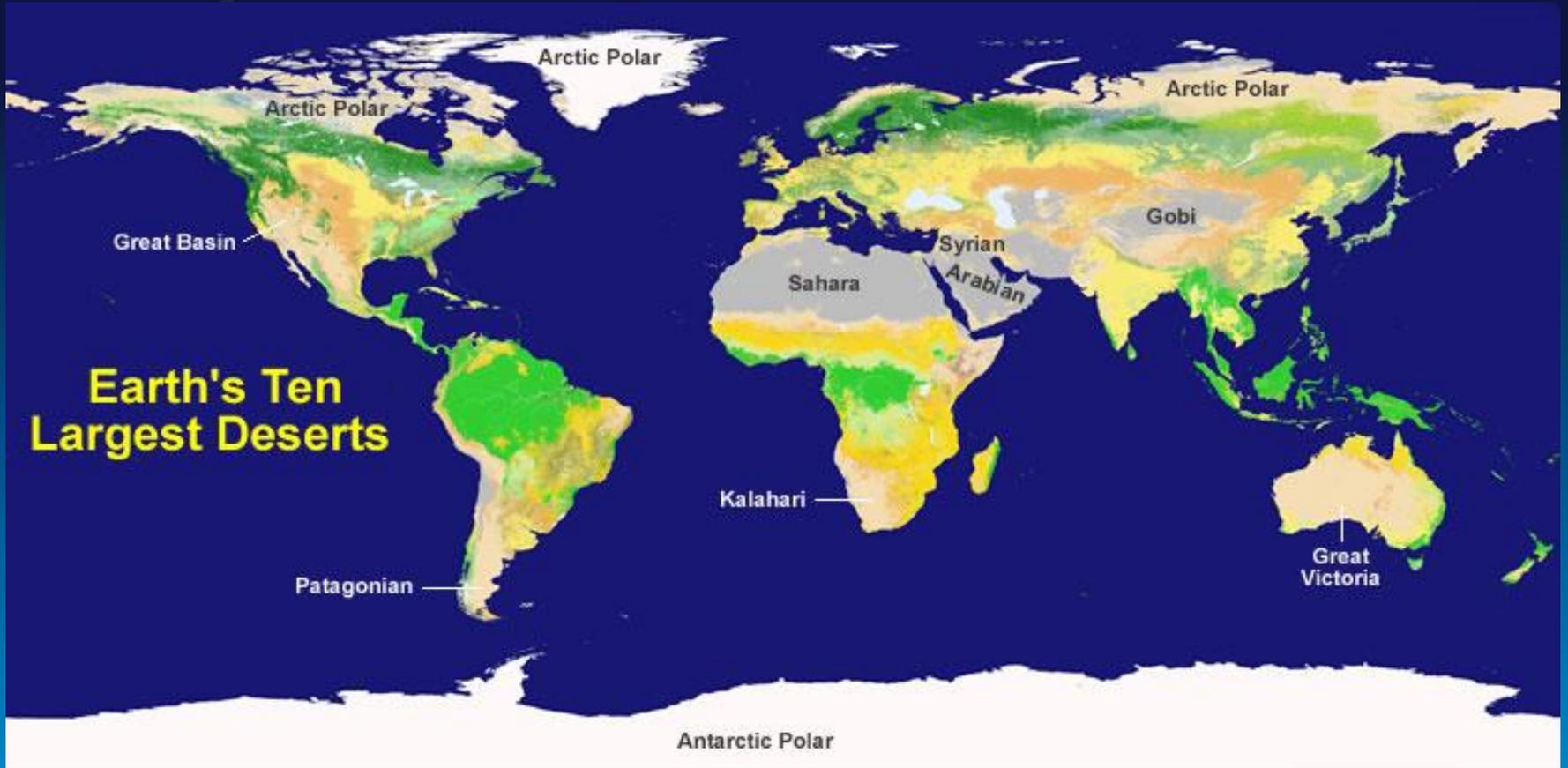
HADLEY CIRCULATION CELL



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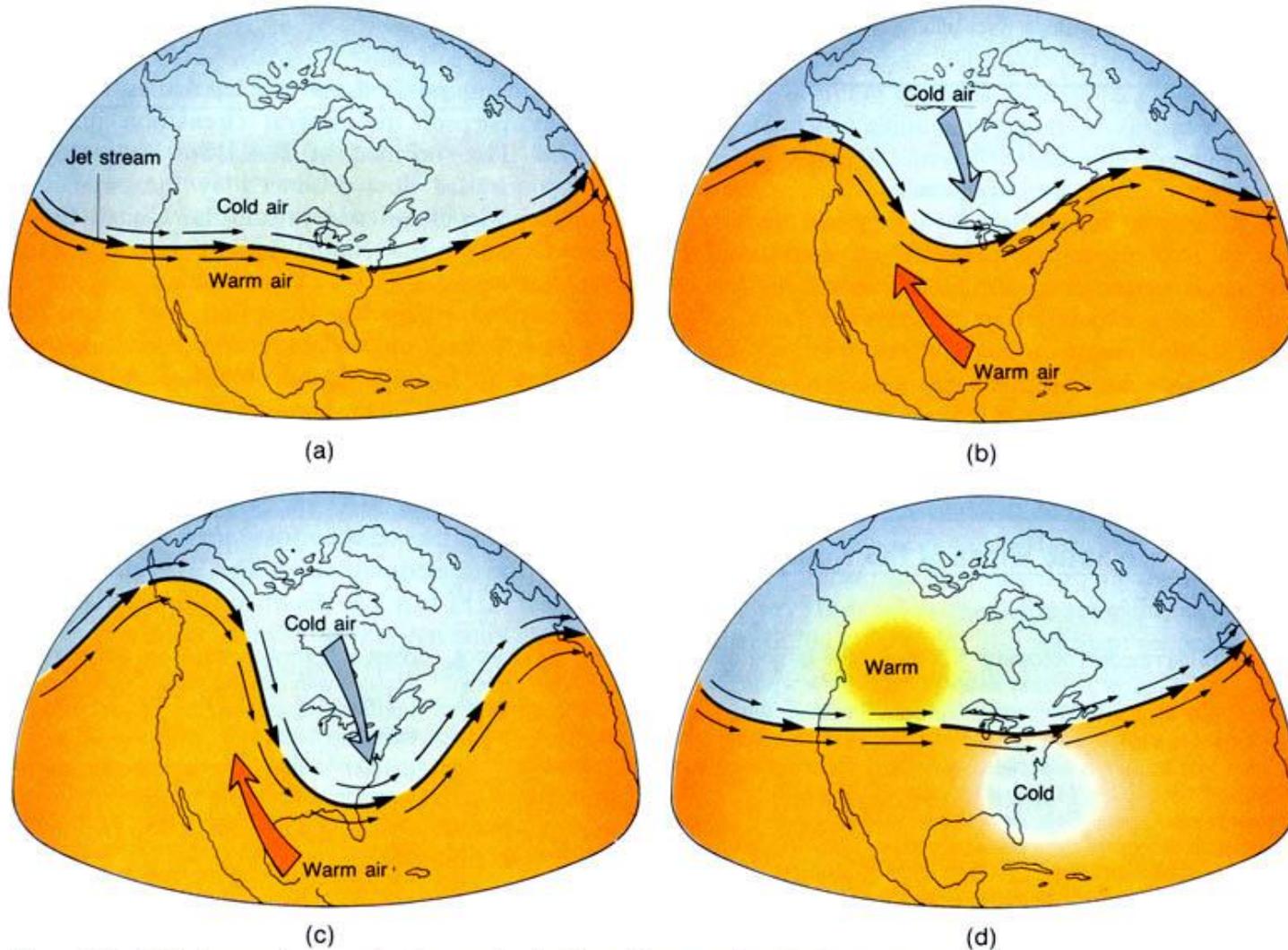
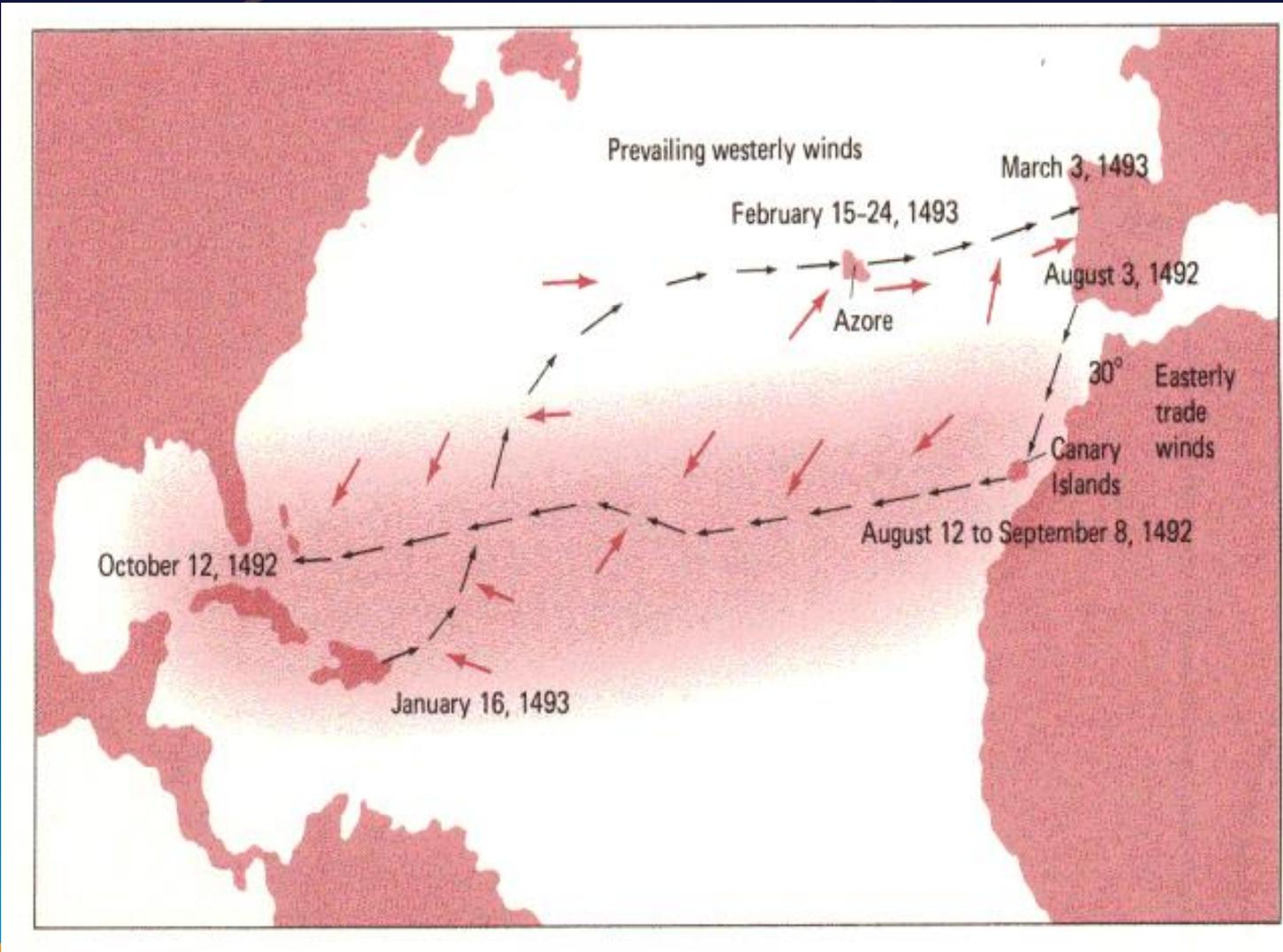
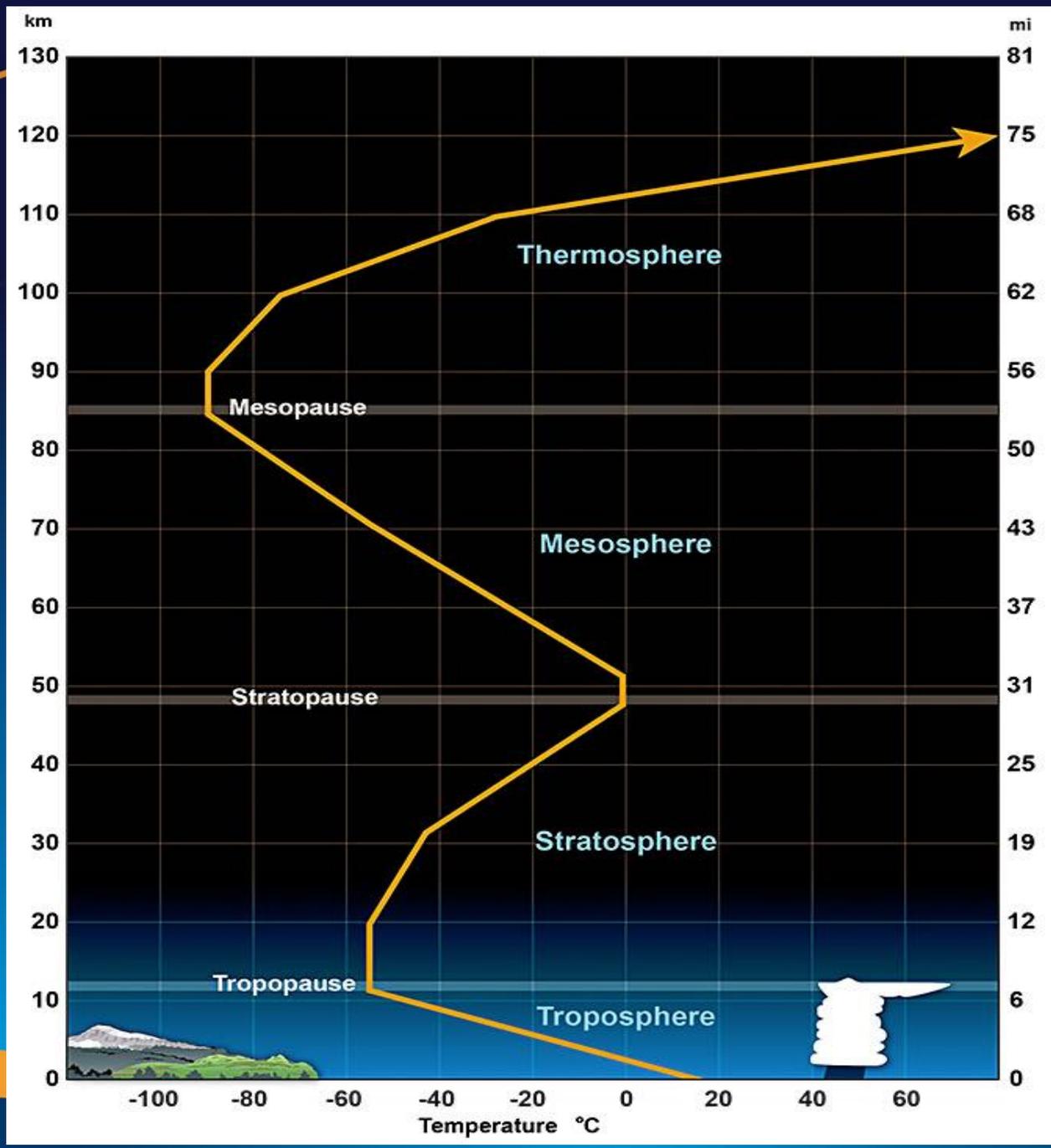
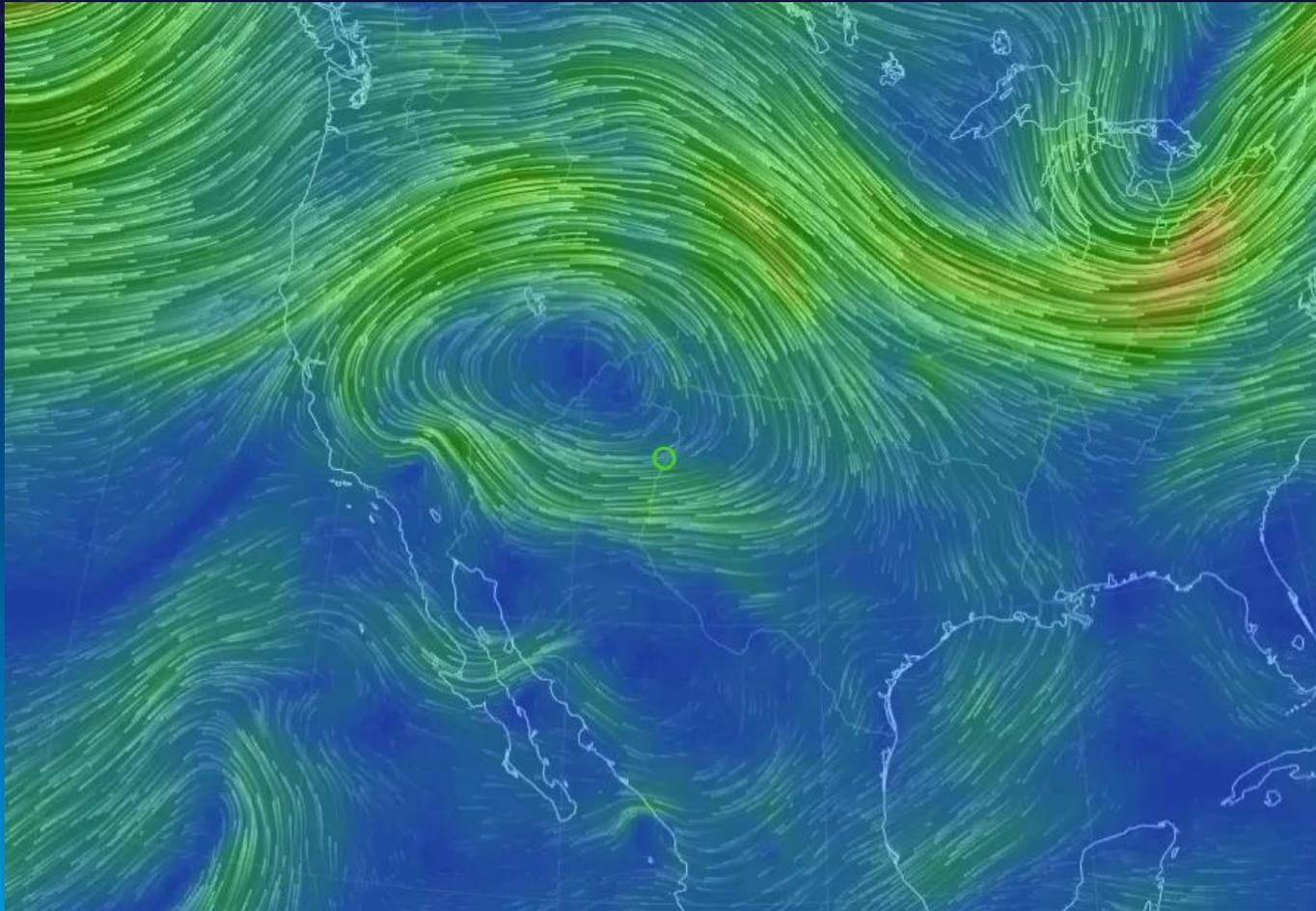


Figure 8•9 Cyclic changes that occur in the upper-level airflow of the westerlies. The flow, which has the jet stream as its axis, starts out nearly straight and then develops meanders that are eventually cut off. (After J. Namias, NOAA)



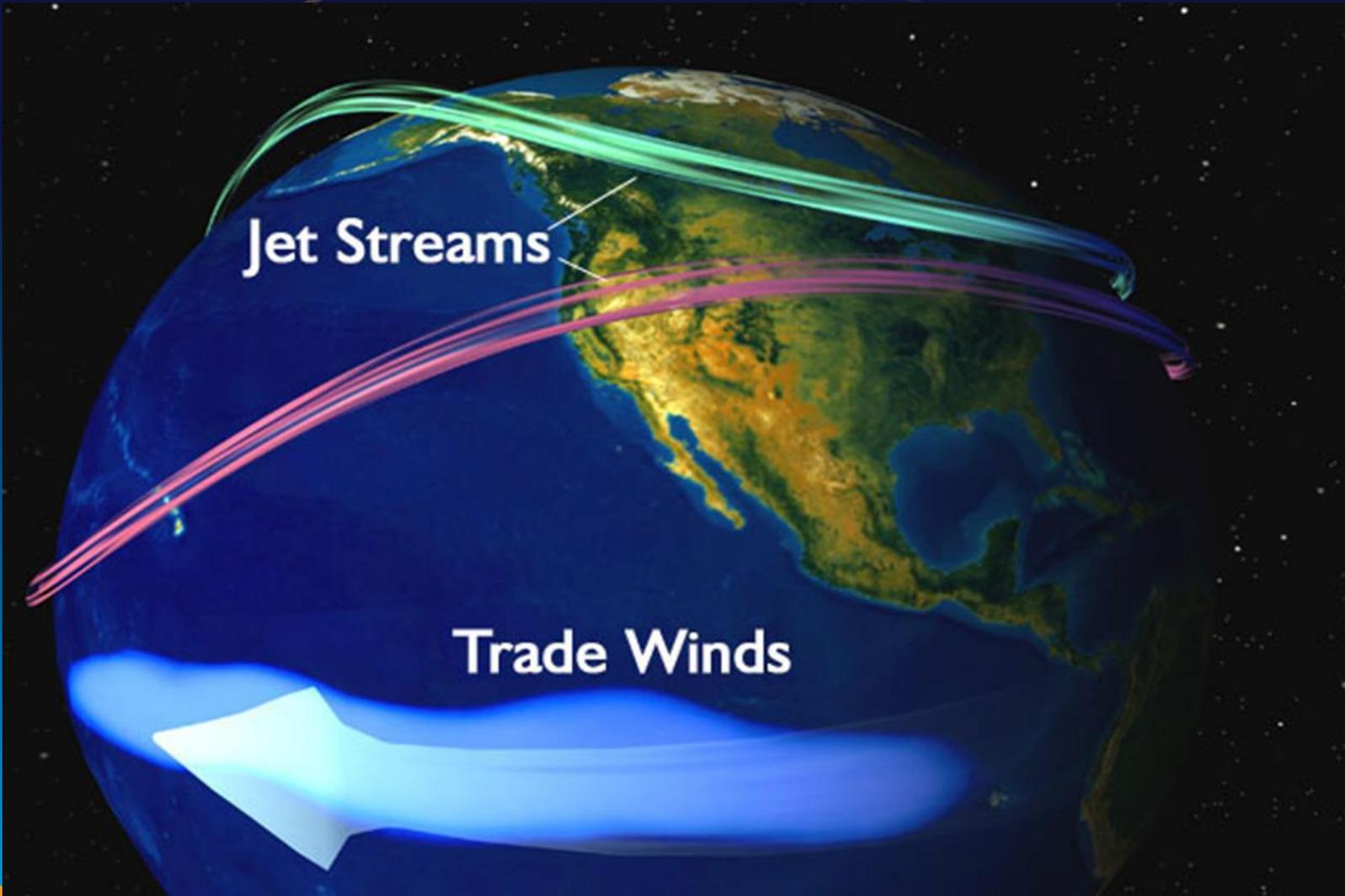




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NORTH AMERICA



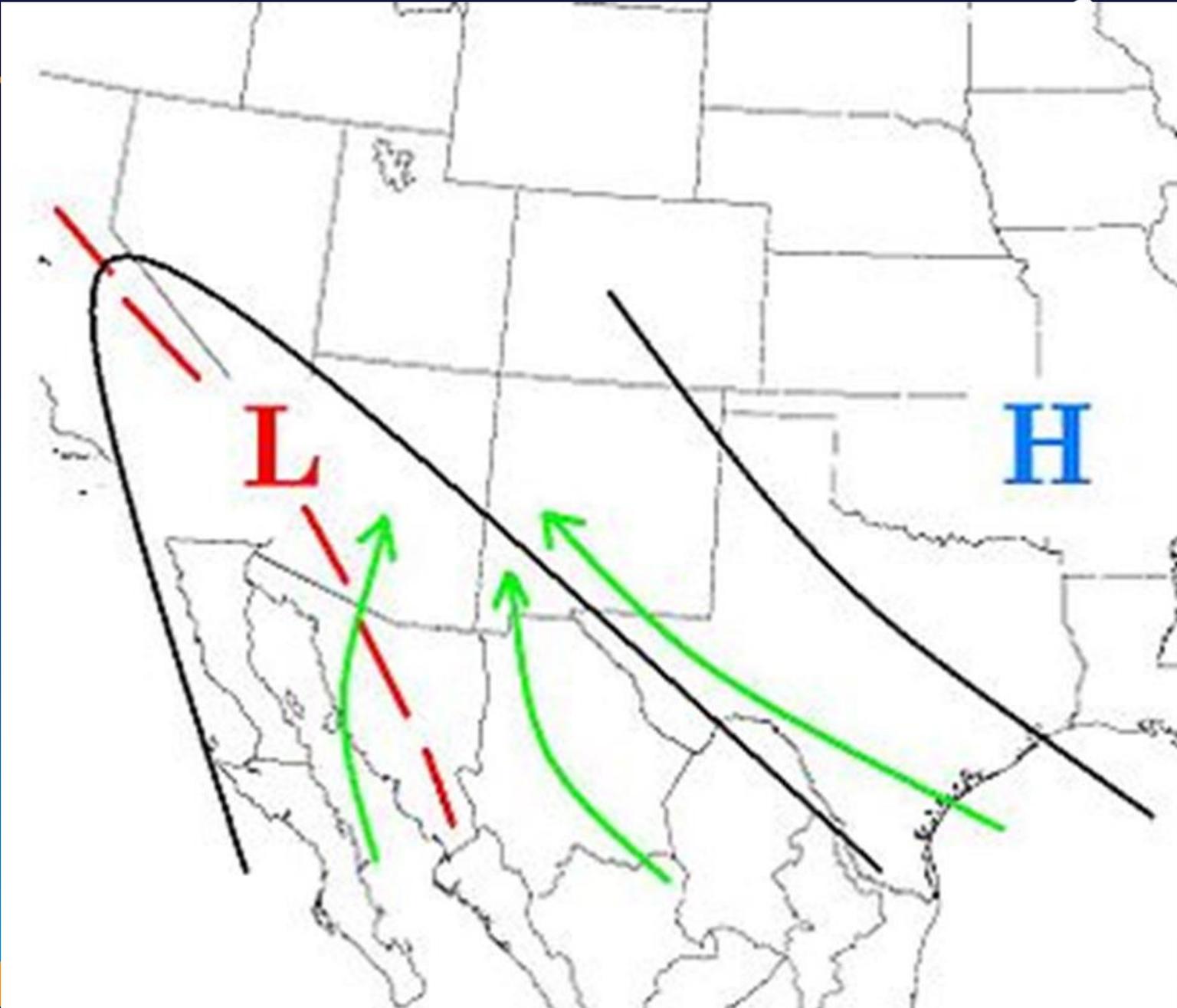


Jet Streams

Trade Winds

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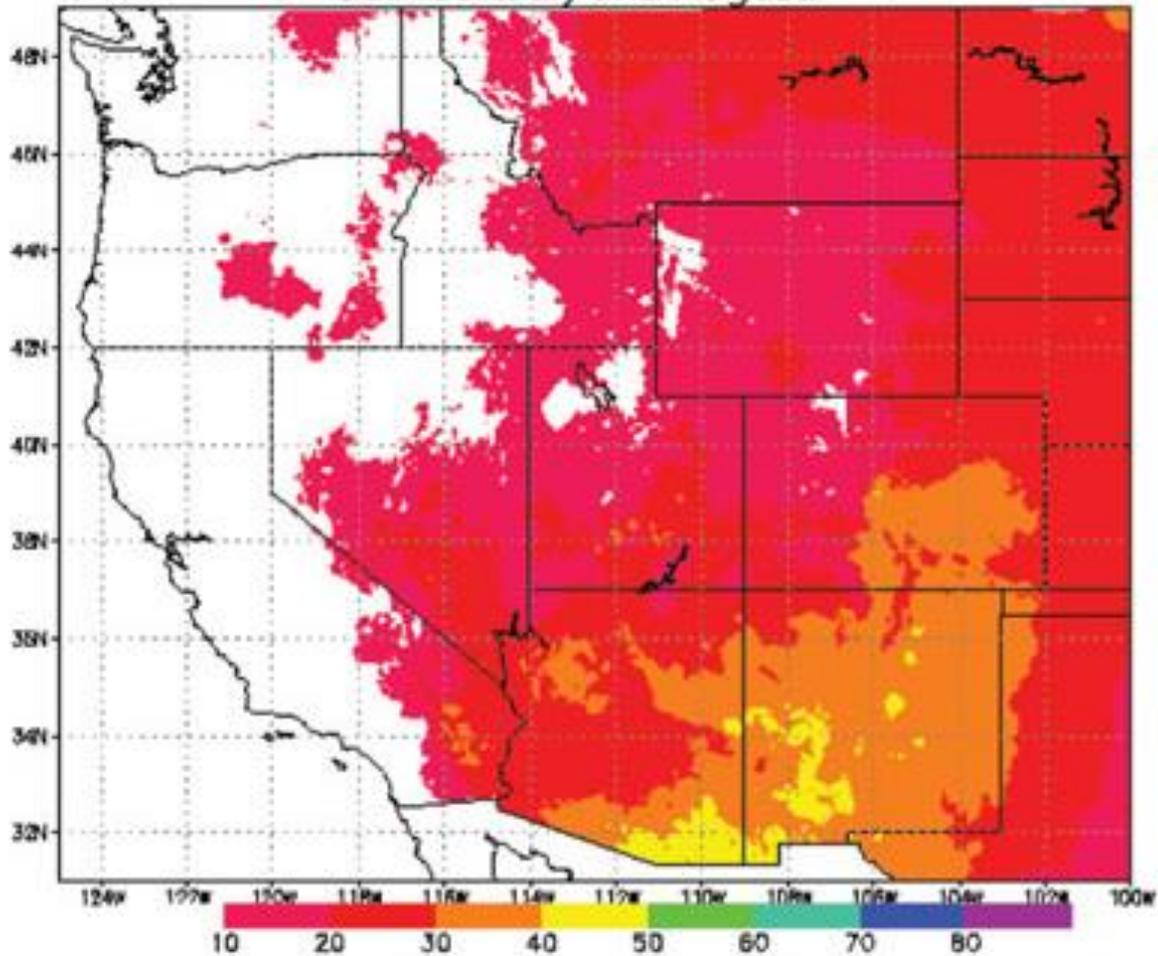


Summer Monsoon is In!



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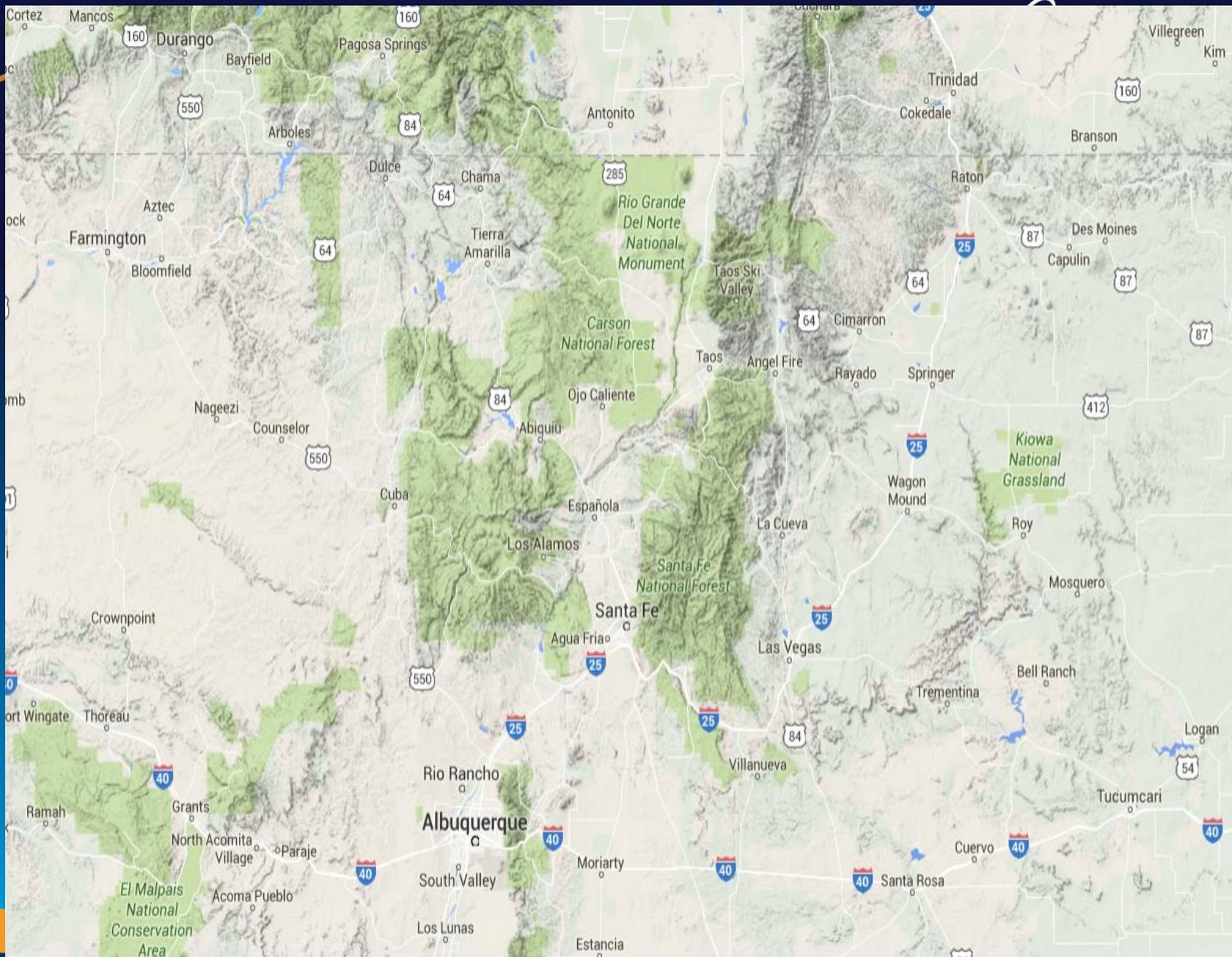
Percent of average annual precipitation that falls between July and August.

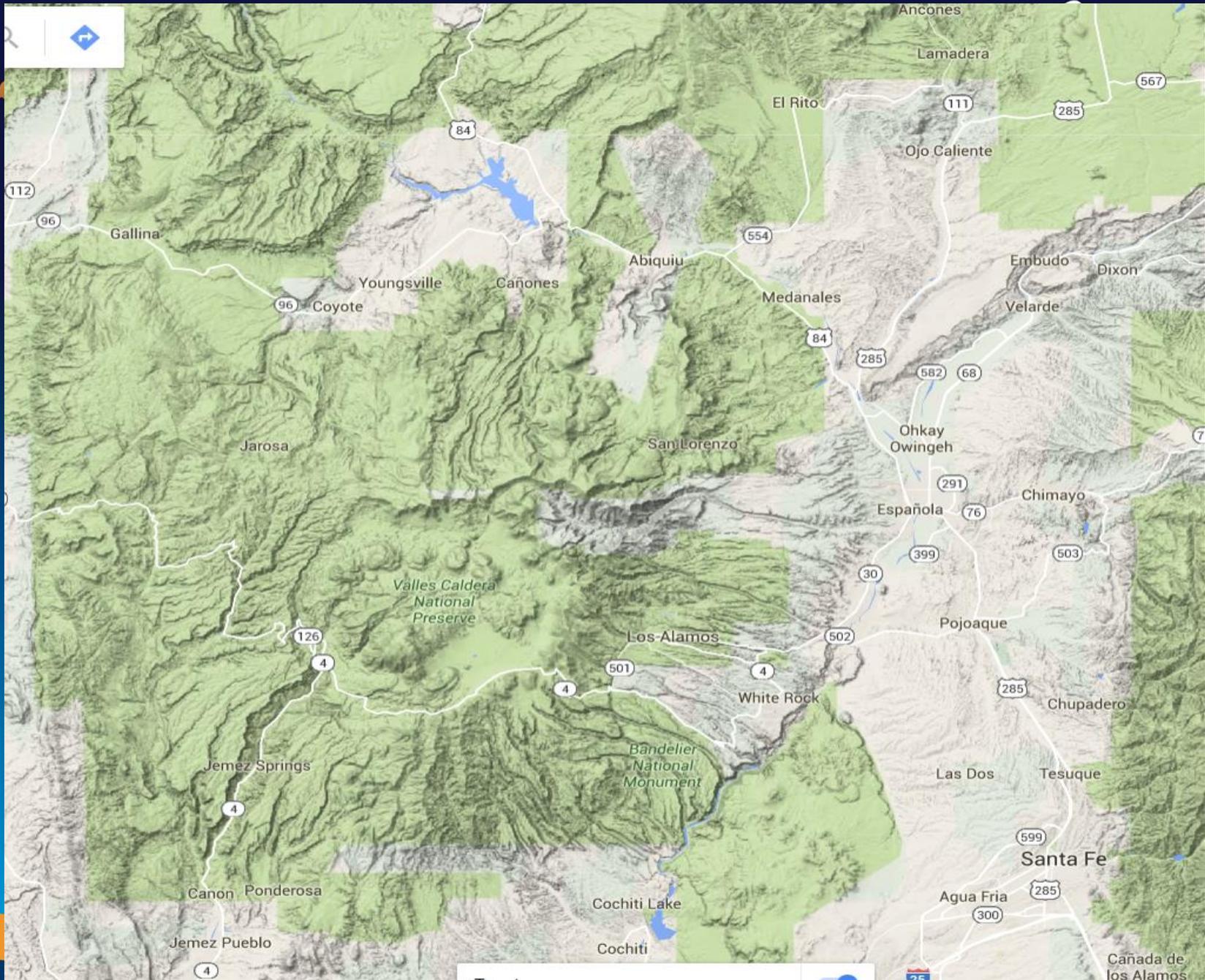


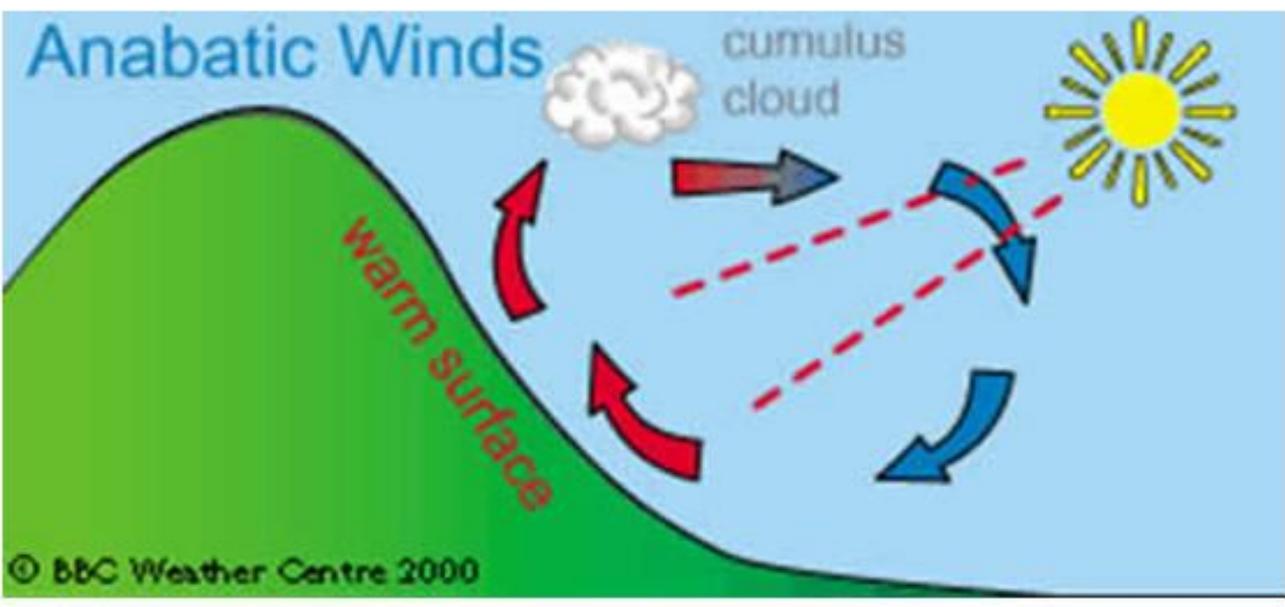
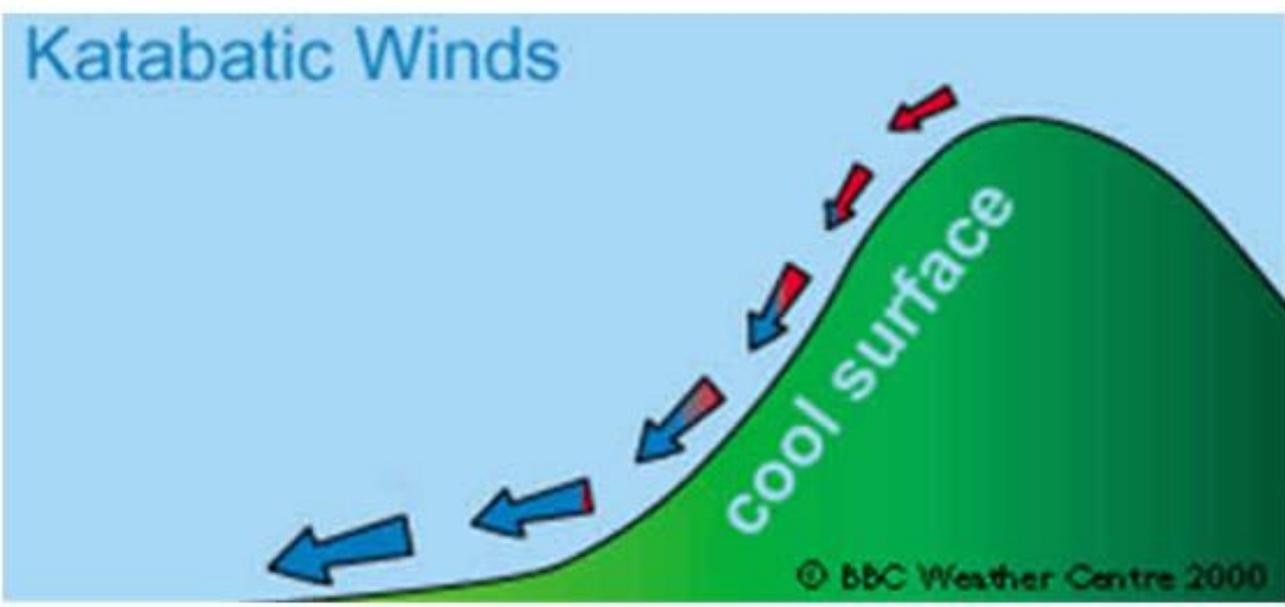
Figures courtesy of Western Regional Climate Center and based on PRISM data produced by the PRISM Climate Group at Oregon State University

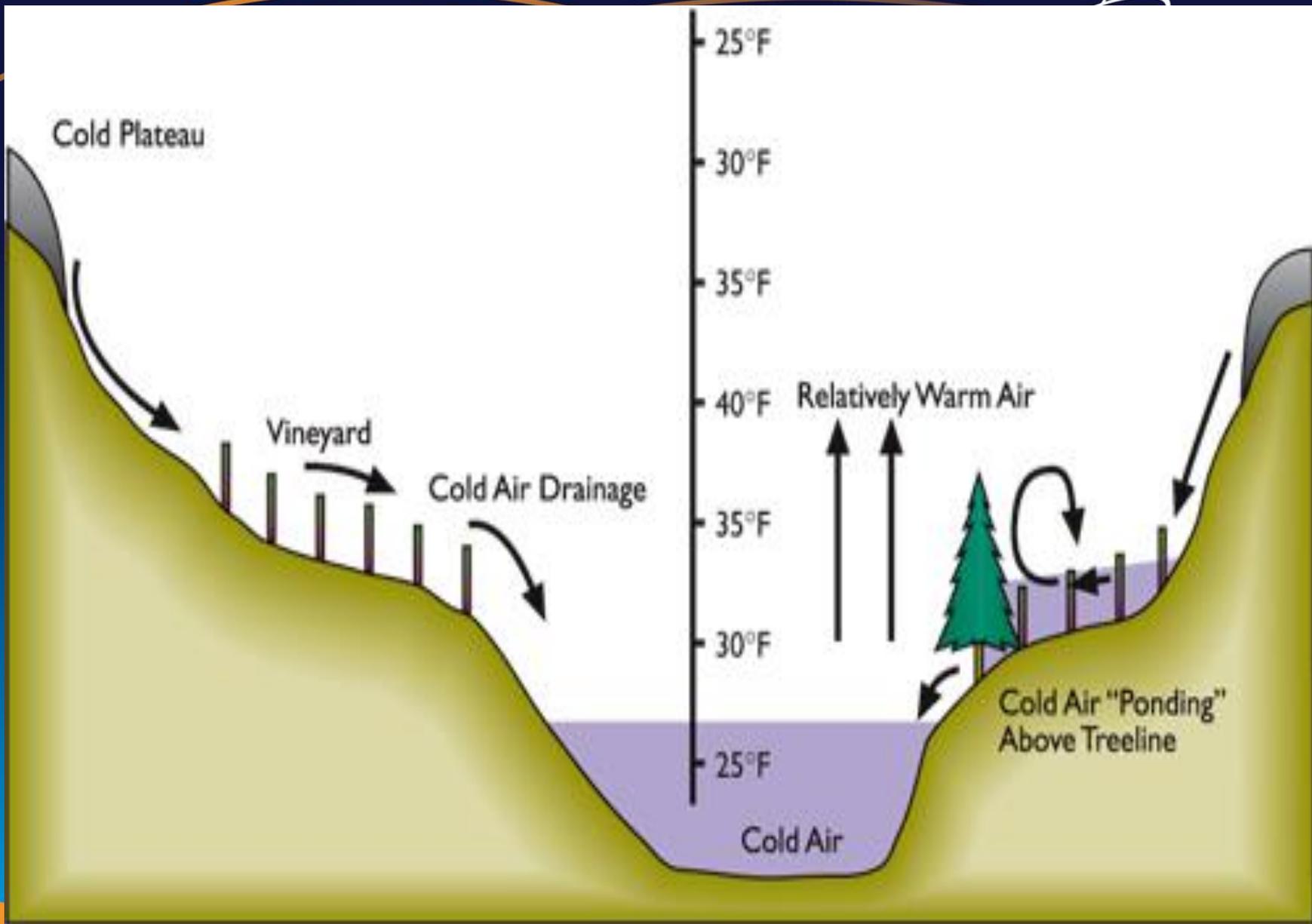
Mountains Create Their Own Weather !





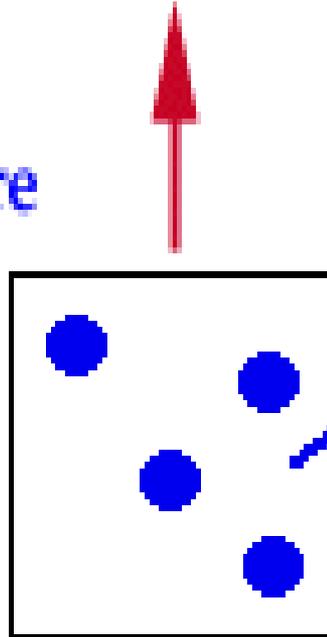






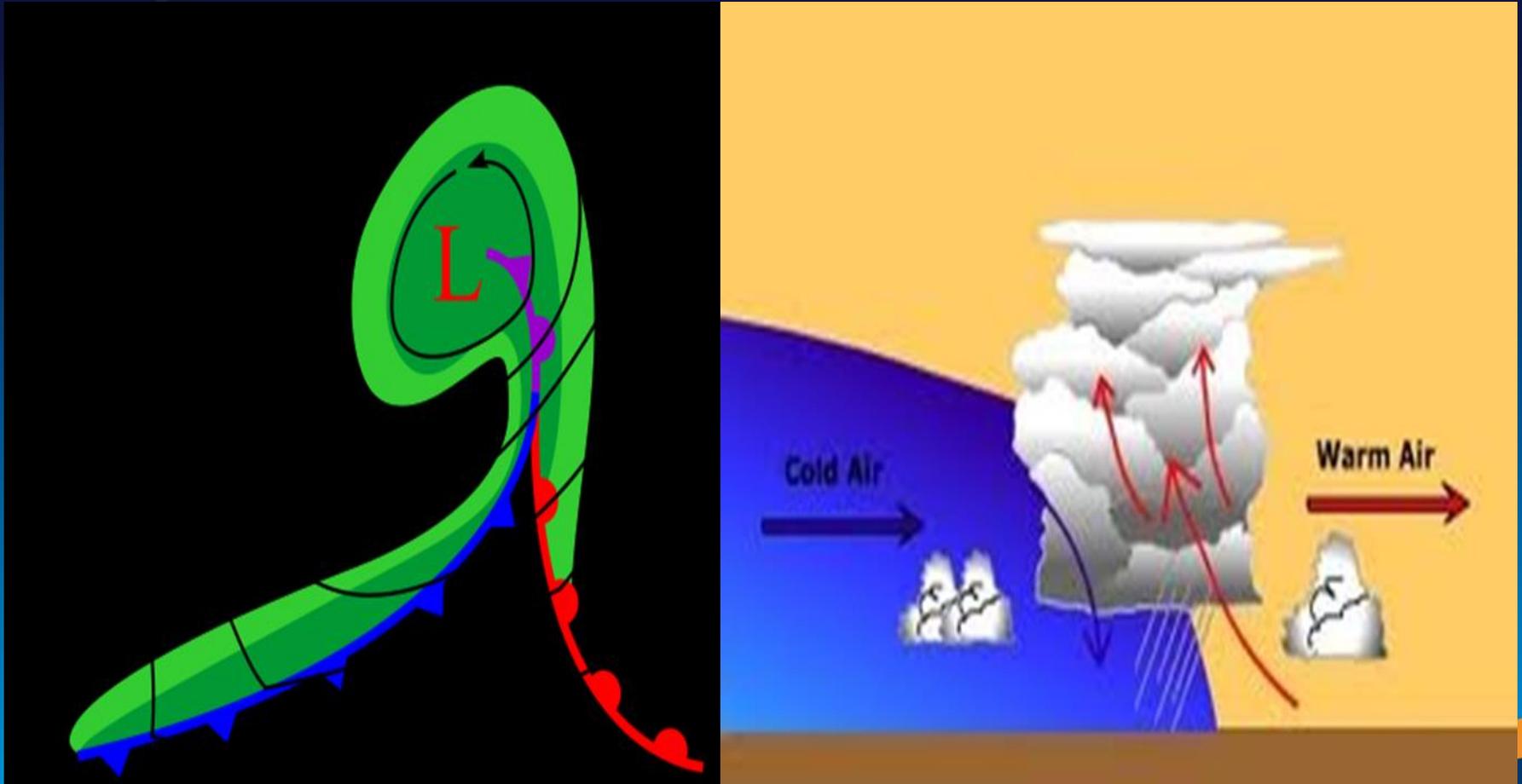
Rising parcel of air higher
up in the atmosphere

Temperature
cools

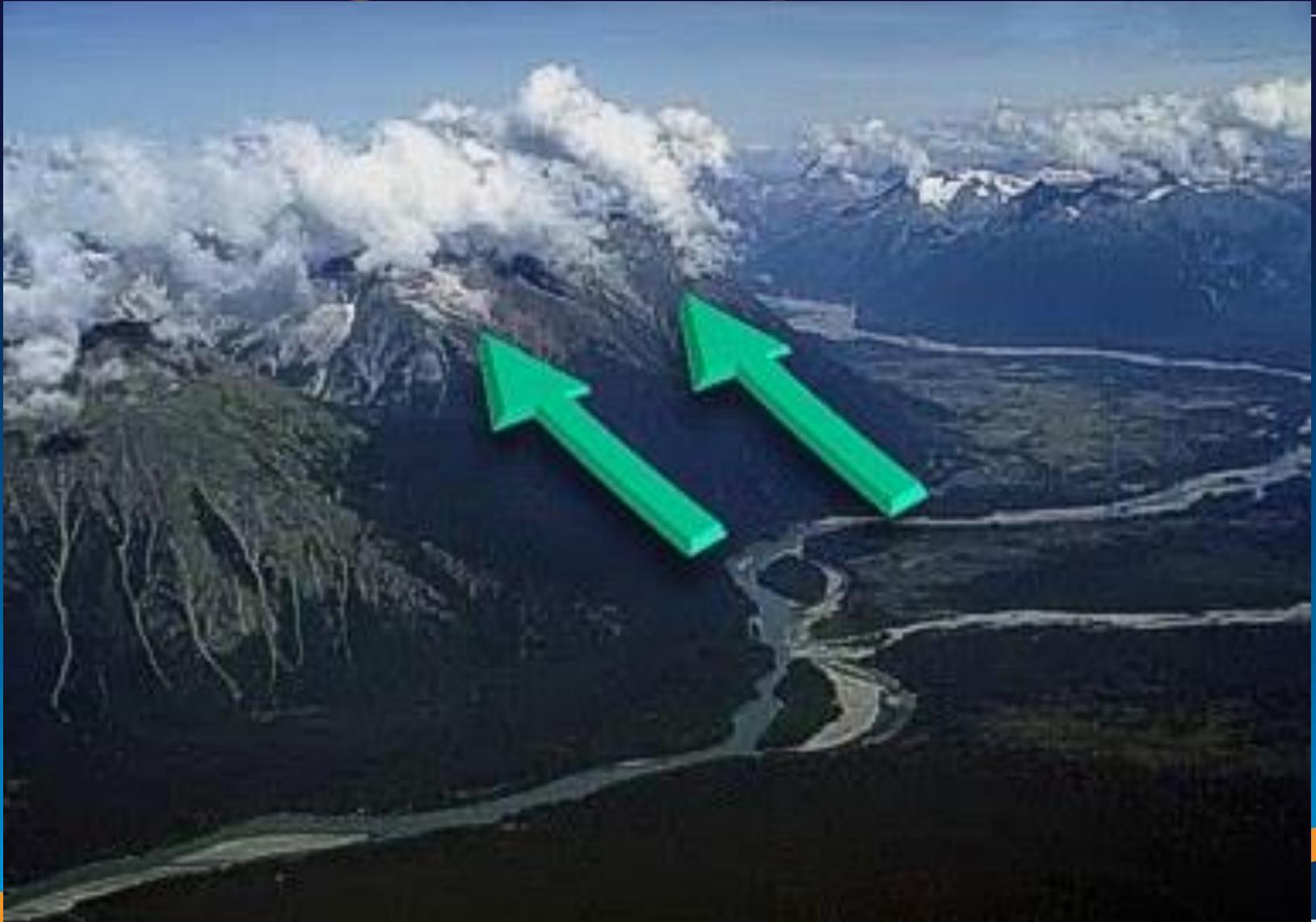


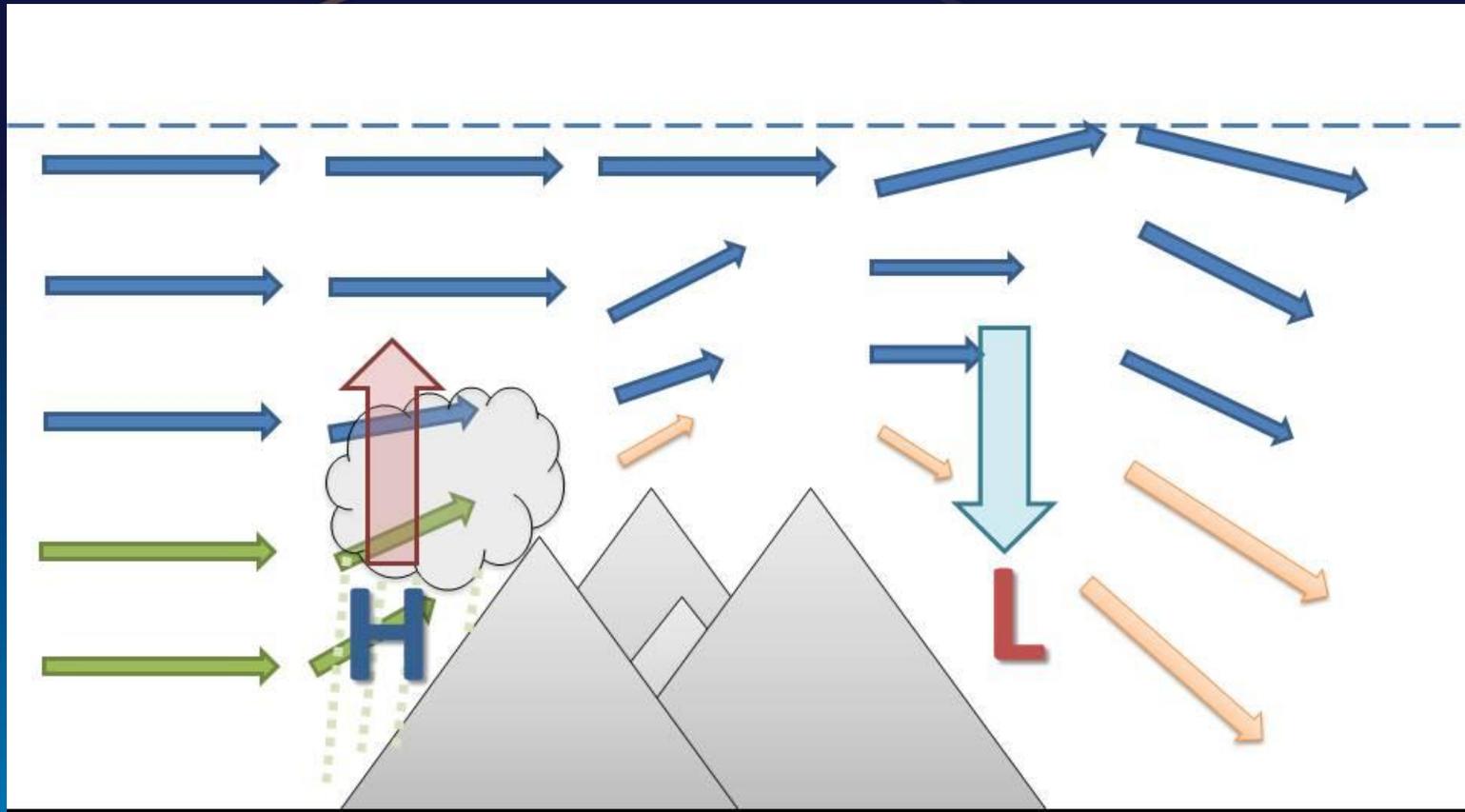
Water vapor
condenses to form
water droplets

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**Upward Motion
on Windward Side**

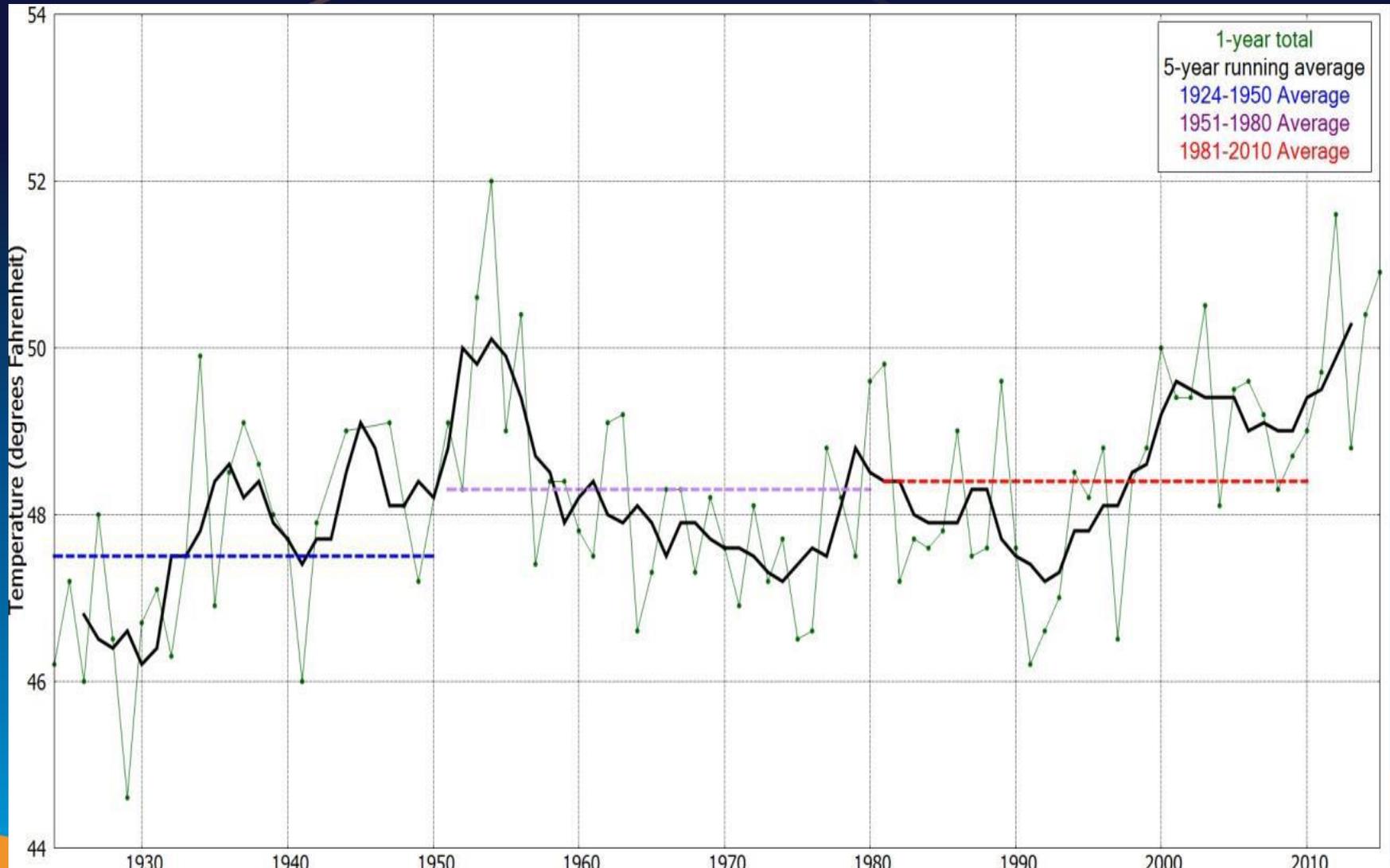
RESPONSE

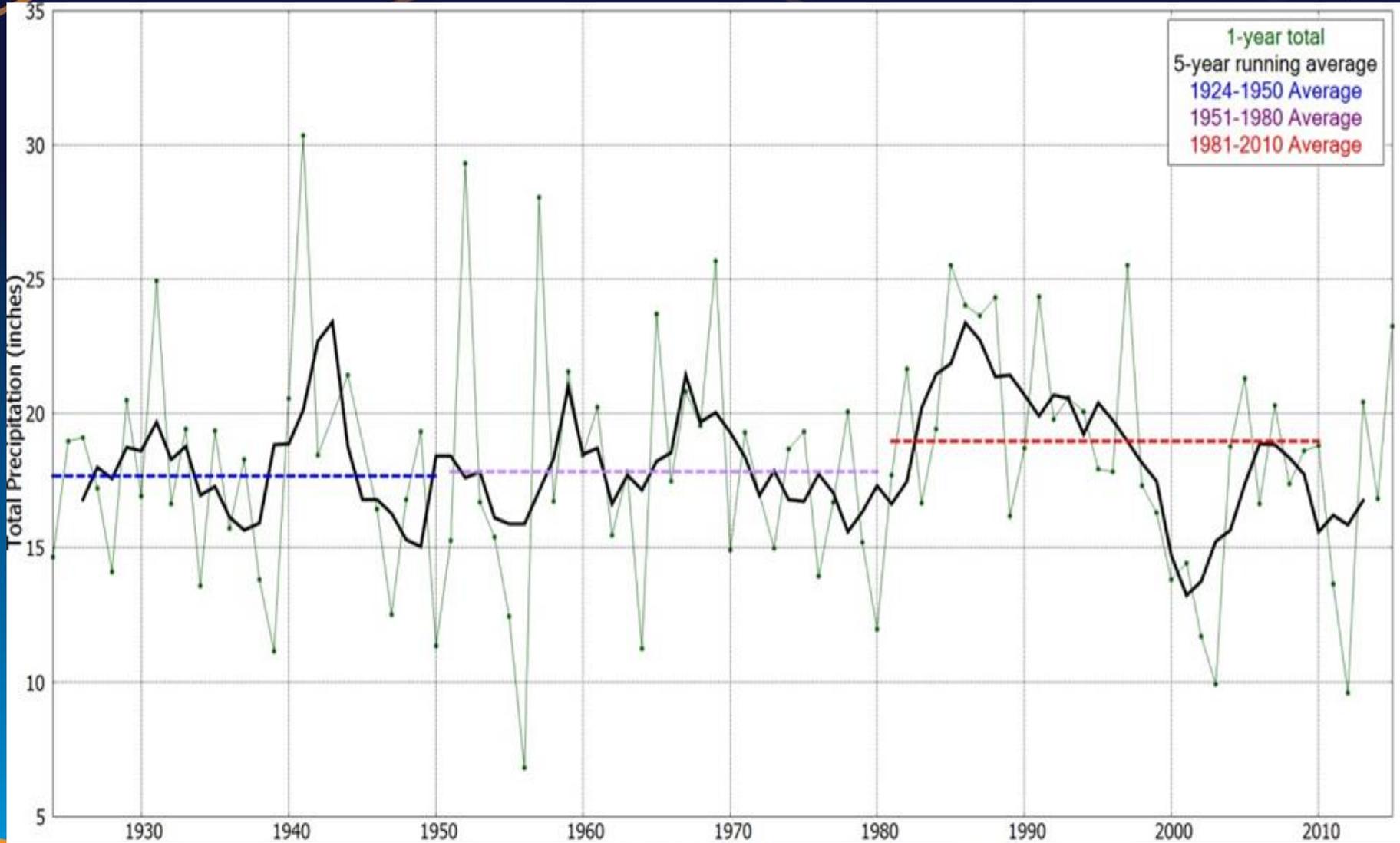
**Downward Motion
on Leeward Side**





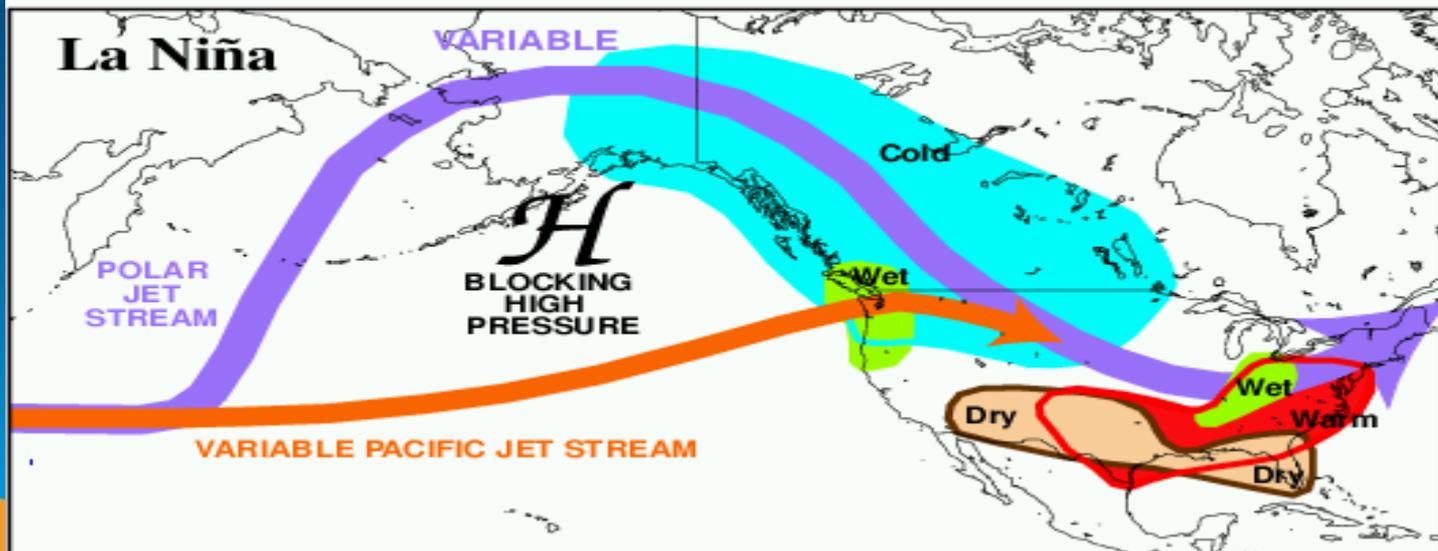
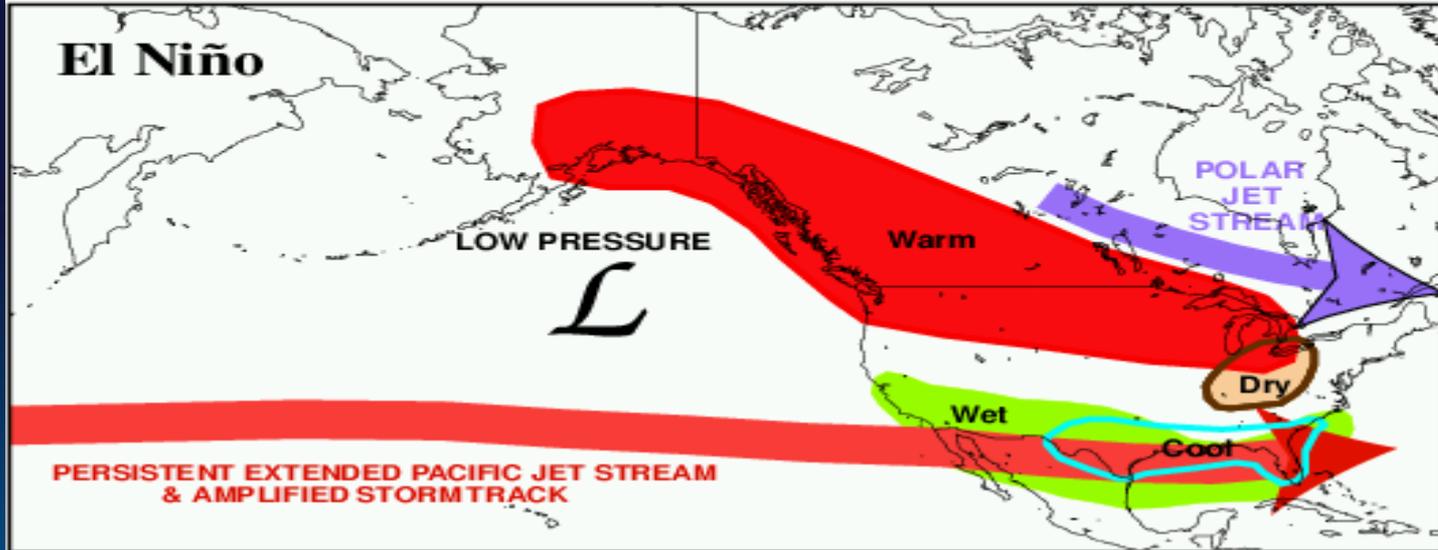
How about our climate?





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TYPICAL JANUARY-MARCH WEATHER ANOMALIES AND ATMOSPHERIC CIRCULATION DURING MODERATE TO STRONG EL NIÑO & LA NIÑA

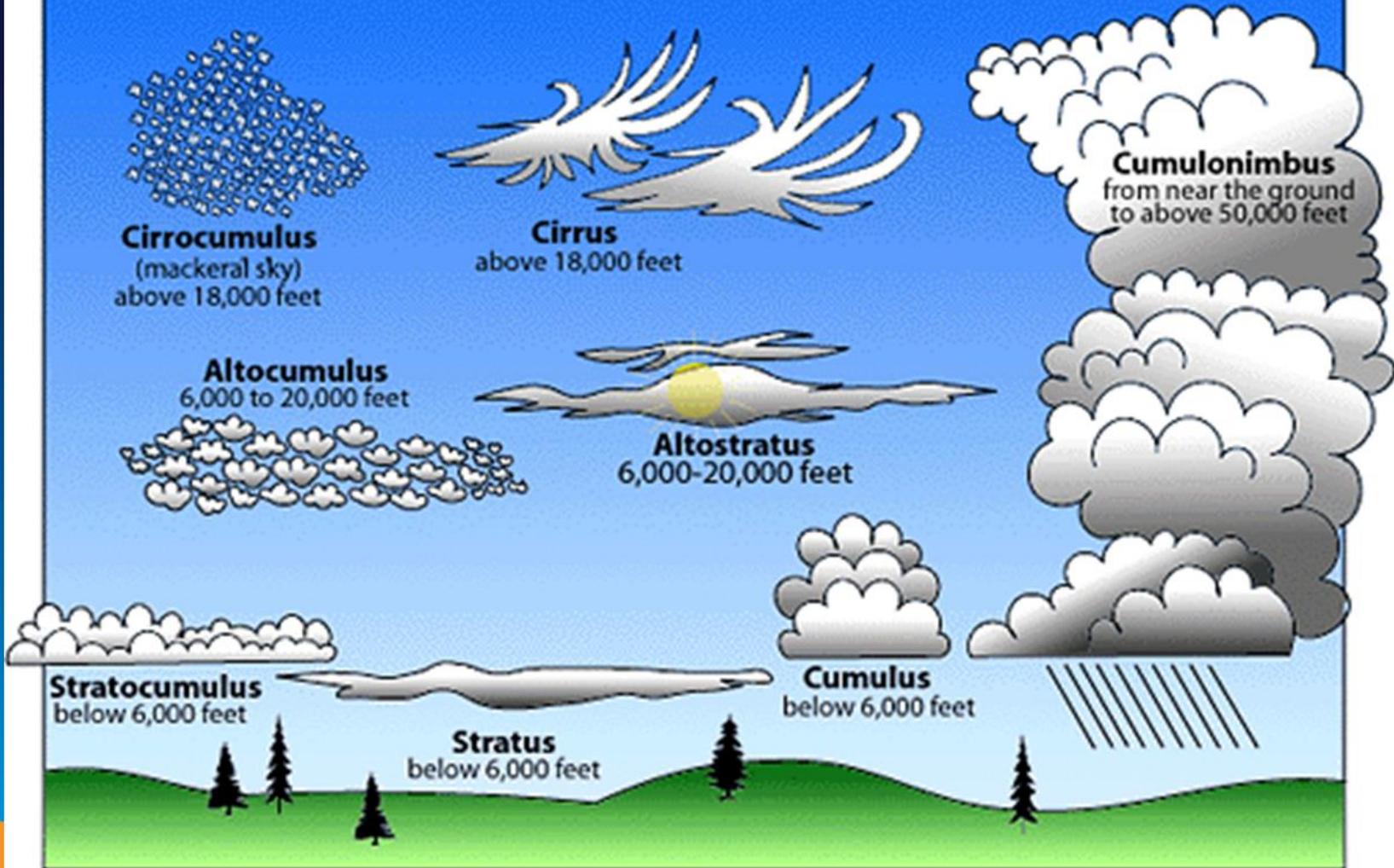


Let's Watch the Sky!



© Brooks Mar

Common types of clouds in the troposphere









© the white planes picture co.







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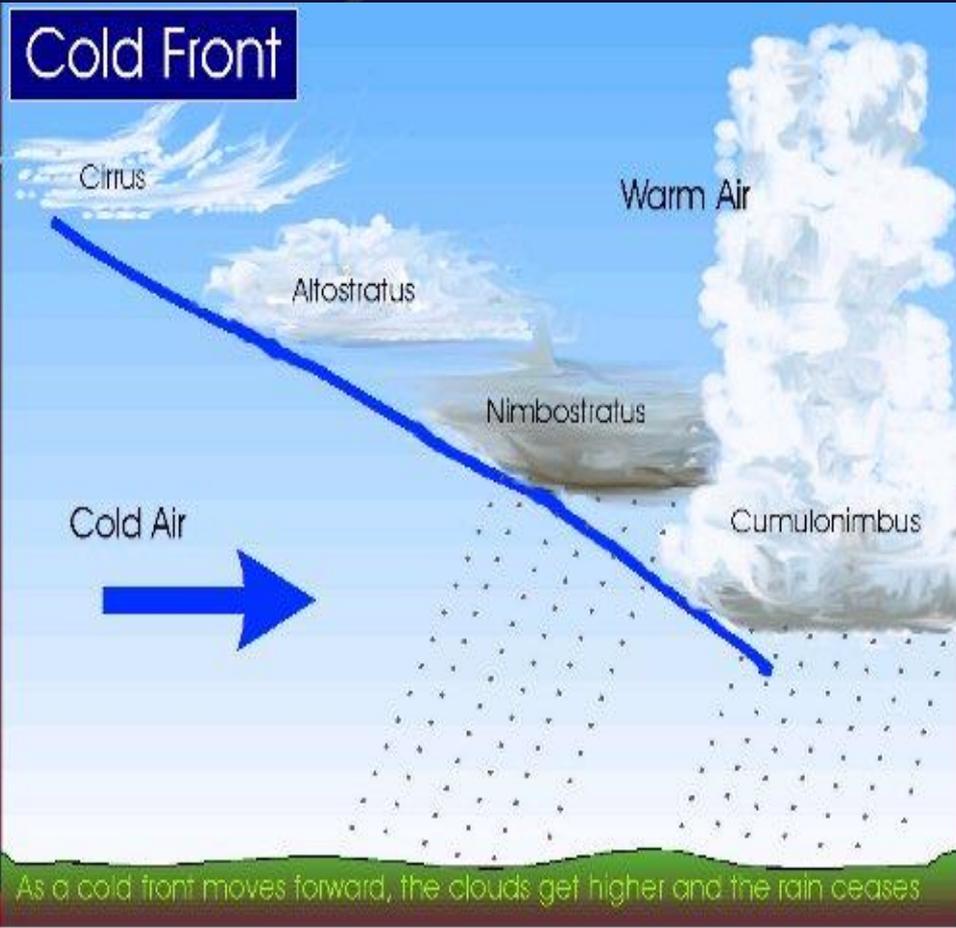




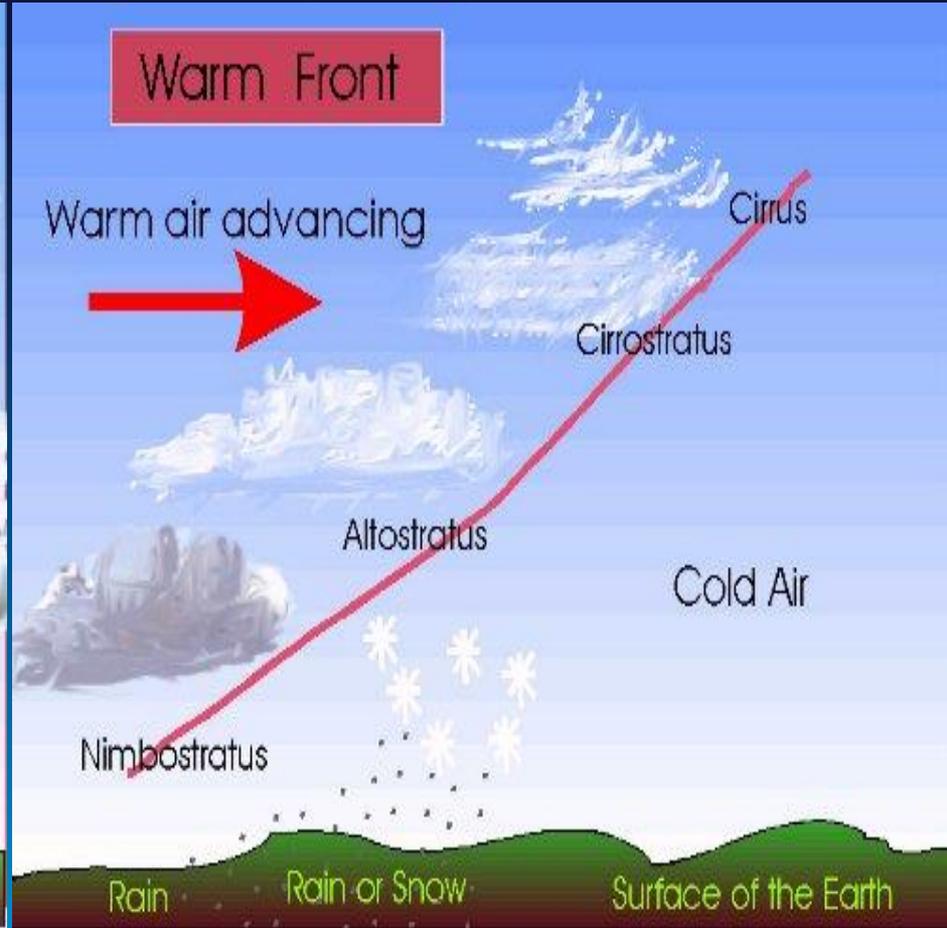
What can we forecast by looking at the sky?

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Cold Front



Warm Front



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- But the mountains mess up everything – because of rising and sinking air
- In Los Alamos – I look at 2 things:
 - Wind direction
 - Cloud base height above the mountains

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